

Work Order ID 147687

Wednesday, June 08, 2016 2:56:17 PM

147687

Page 1

Item ID: D3883-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Saddle, Outboard LH

Stop ***NS2***

Start Date: 6/24/2016 Start Qty: *400* ***4***

Cust Item ID:

Required Date: 6/30/2016 Req'd Qty: *400* ***4***

Customer:

Reference:

Approvals: Process Plan: *[Signature]* Date: Tooling: Date:

Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3883	D								

100

0.26

100

HAAS I

HAAS CNC vertical machine #1

HAAS CNC VERTICAL MACHINING #1

Memo

Program Batch No. *B147687*

Double check by *[Signature]*

1-Machine Step No 1 per Folio FA815 and inspect per attached Dimension Sheets

2-Machine Step No 2 per Folio FA641 and inspect per attached Dimension Sheets

3-Machine Step No 3 per Folio FA815 and inspect per Dimension Sheets

MILL AS PER DWG AND FOLIO FA815

FOLIO REV: *AA*

DWG REV: *D*

DAS
08
9-89

12

1

DAS
14
9-89

105

0.00

105

Mill Conv

Conventional Milling Machine

Memo

MILL KEYWAY AS PER DWG

DAS
08
9-89

12

0

DAS
14
9-89

PTO

DQA:

Date: 16.08.29



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 16/08/20

Work Order update only ☐

Work Order: 147683		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. D3883-1		Rework ☐		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐		
NCR No. 16-5991		Scrap ☒		Machining ☒	Small Fab ☐	Prod. Eng. Coord. ☒	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: 16/07/28		Step #: 100		QTY Effective: 1		MRB (QSI042) Approval			
Description Work Order Deviation				Disposition		DAS 9 9-89 16-08-04 Completed By B. 16/07/28			
⇒ 1" ballmill digged through the x-tube bore during profiling resulting as a 1" hole through the saddle ⇒ Toolpath in program was faulty				⇒ Program has been fixed and updated 16/07/28 ⇒ Scrap n replace Batch # 144955		Lead hand / Supervisor Approval Verification DAS 9 9-89 16-08-04			
						QC / QA Coordinator Approval DAS 9 9-89 16-08-04			
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☒	Outside Dimensions ☐				
Doc/Data ☒	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☒	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 147687

Wednesday, June 08, 2016 2:56:17 PM

147687

Page 2

Item ID: D3883-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle, Outboard LH

Start Date: 6/24/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 6/30/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.01

Quality Control

D.e 16/07/31

DAS
08
9-89

12

Ø

DAS
14
9-89

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.01

Quality Control

12

Ø

DAS
44 16-08-05
9-89

130

Chemical Conversion Coat per QSI005 4.1

0.00

130

HandFinish

Memo

0.09

Hand Finishing

(12)

2016/08/05

BFB

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 147687

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147687

Page 3

Item ID: D3883-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Saddle, Outboard LH
 Start Date: 6/24/2016 Start Qty: 4.00 ***4*** Cust Item ID:
 Required Date: 6/30/2016 Req'd Qty: 4.00 ***4*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
140	M134792								
Powdercoat	Memo	0.03							
Powder Coating	***MASK INSIDE SURFACES OF SADDLE PRIOR TO APPLICATION OF POWDER COAT AS PER INDICATED ON DWG (SEE NOTE 2)***								
	DO NOT MASK INSIDE FLANGE SURFACE								
	START TIME: 10:40AM								
	OVEN TEMPERATURE: 320°C								
	FINISH TIME: 11:10AM								
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.01							
Quality Control									

X12 of 16/08/23

(12)

DAS
38
9-89

AUG 23 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Work Order ID 147687

Wednesday, June 08, 2016 2:56:17 PM

147687

Page 4

Item ID: D3883-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle, Outboard LH

Start Date: 6/24/2016 Start Qty: 4.00

4

Cust Item ID:

Required Date: 6/30/2016 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location

St401

0.00

160

Packaging

Memo

0.01

DAS
6
9-89*12**PC*

AUG 24 2016

Packaging

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.07

DAS
21
9-89

AUG 25 2016

Quality Control

MF
10-8-24

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval _____	
Description Work Order Deviation		Disposition			
				Completed By _____	
				Lead hand / Supervisor Approval Verification _____	
				QC / QA Coordinator Approval _____	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

Picklist Print

Wednesday, June 08, 2016 2:56:17 PM

Page 1

Work Order ID: 147687

147687

Parent Item: D3883-1

D3883-1

Parent Item Name: Saddle, Outboard LH

Start Date: 6/24/2016

Required Date: 6/30/2016

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP RevA: New issue DD verified by:EC
15.05.20 remove inside powdercoat DD VERF:JLM

IPP REV:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6101-015		Manufactured	No			100	Each	58.0000	1	4			
-----------	--	--------------	----	--	--	-----	------	---------	---	---	--	--	--

D6101-015

Saddle Billet

**

16/07/26

Location

Loc Qty

Loc Code

MAT045

58

→ 142579

8

→ 144955

50

8.0

+ 1.0

4.0

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐	☐ No Re-verification	Pressure/Forced ☐		Temperature/Cure ☐		Power Loss/Surge ☐	☐ Positioned Wrong
Design ☐	☐ Operator	Bending ☐		Set-up ☐		Folio/Program ☐	☐ Outside Dimensions
Doc/Data ☐	☐ Offset/Setup	Centre Not Concentric ☐		BOM/Route ☐		Grain ☐	☐ Over/Under tolerance
Equip/Tooling ☐	☐ Supplier	Cracks ☐		Broken/Damage/Defect ☐		Weld ☐	☐ Part Incorrect
Handling/Pre ☐	☐ Training	Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐	☐ Part Lost/Missing
Material ☐	☐ Use for Testing	Cuffs ☐		Contamination ☐		Out of Sequence ☐	☐ Part Moved
Internal Transport ☐	☐ Poor Information	Crushing ☐		Countersink ☐		Off-set ☐	☐ Drawing
Tribal Knowledge ☐	☐ Rushing	Heat Treat ☐		Cut Too Short ☐		Mislabeled ☐	☐ Finish
LOA ☐	☐ Product Improvement	Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐	☐ Misread
Substation ☐	☐ Process Improvement	Marks/Chatter ☐		Drill Holes ☐		Misaligned/off center ☐	☐ Turning Sequence
Past Expiry Date ☐	☐ Manufacturing Process	OTHER : _____					
Misidentified ☐	☐ Past Due						

DART AEROSPACE LTD		Work Order: 147687
Description: Saddle, Outboard, LH		Part Number: D3883-1
Inspection Dwg: D3883	Rev. D	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		.646	.645	.646	.646		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.259	.259	.259	.259		
F	0.605	0.625		.615	.615	.615	.615		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.000	2.003	2.000	2.004		
J	0.140	0.165		.148	.148	.147	.147		
K	0.240	0.260		.248	.247	.243	.246		
L	0.115	0.135		.125	.125	.125	.125		
M	0.140	0.165		.149	.150	.146	.146		
N	0.720	0.780		.760	.780	.780	.750		
O	0.240	0.260		.257	.260	.255	.255		
P	0.110	0.140		.140	.140	.140	.140		
Q	0.178	0.198		.188	.188	.188	.188		
R	2.825	2.885		2.855	2.855	2.855	2.855		
S	0.316	0.321		.316	.316	.316	.316		
T	0.990	1.010		.998	1.000	1.000	1.000		
U	1.745	1.755		1.750	1.750	1.750	1.748		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	1.245	1.255		1.250	1.250	1.250	1.250		
X	0.490	0.510		.500	.500	.500	.500		
Y	1.220	1.280		1.245	1.245	1.245	1.245		
Z	2.495	2.505		2.500	2.500	2.500	2.500		
AA	0.313	0.318		.314	.314	.314	.315		
AB	0.020	0.040		.036	.037	.037	.037		
AC	0.760	0.765		.766	.766	.766	.766		
AD	0.215	0.220		.218	.218	.218	.218		
AE	1.265	1.285		1.265	1.265	1.265	1.265		
AF									
Accept/Reject									

Measured by: 14	DAS 44
Date: 16/07/29	Audited by: 9.89
	Date: 16-08-05

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	JLM
B	09.11.25	Dimension AE added	KJ	
C	15.06.22	Dwg Rev updated	KJ	

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval																																																									
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Misabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

DART AEROSPACE LTD		Work Order: 149687
Description: Saddle, Outboard, LH		Part Number: D3883-1
Inspection Dwg: D3883	Rev. D	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				15	16	17	18		
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		.646	.646	.647	.646		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		.257	.257	.257	.257		
F	0.605	0.625		.615	.615	.615	.615		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.000	2.000	2.002	2.001		
J	0.140	0.165		.146	.148	.146	.146		
K	0.240	0.260		.243	.246	.243	.243		
L	0.115	0.135		.125	.125	.124	.124		
M	0.140	0.165		.147	.147	.147	.147		
N	0.720	0.780		.780	.780	.780	0.775		
O	0.240	0.260		.255	.254	.254	0.257		
P	0.110	0.140		.140	.140	.140	.140		
Q	0.178	0.198		.188	.188	.188	.188		
R	2.825	2.885		2.855	2.855	2.855	2.855		
S	0.316	0.321		.316	.316	.317	0.316		
T	0.990	1.010		1.000	.999	1.000	1.000		
U	1.745	1.755		1.750	1.750	1.750	1.750		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	1.245	1.255		1.250	1.250	1.250	1.250		
X	0.490	0.510		.500	.500	.500	0.500		
Y	1.220	1.280		1.245	1.245	1.245	1.245		
Z	2.495	2.505		2.500	2.500	2.500	2.500		
AA	0.313	0.318		.315	.316	.315	0.314		
AB	0.020	0.040		.030	.035	.035	0.030		
AC	0.760	0.765		.761	.761	.760	0.760		
AD	0.215	0.220		.218	.220	.220	0.218		
AE	1.265	1.285		1.265	1.265	1.265	1.265		
AF									
Accept/Reject									

Measured by: 14
Date: 16/07/29 / 16/07/31 06
9-85

Audited by: 44
Date: 16-08-05

Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	JLM
B	09.11.25	Dimension AE added	KJ	
C	15.06.22	Dwg Rev updated	KJ	

DART AEROSPACE LTD		Work Order: 147687
Description: Saddle, Outboard, LH		Part Number: D3883-1
Inspection Dwg: D3883	Rev. D	Page 1 of 1

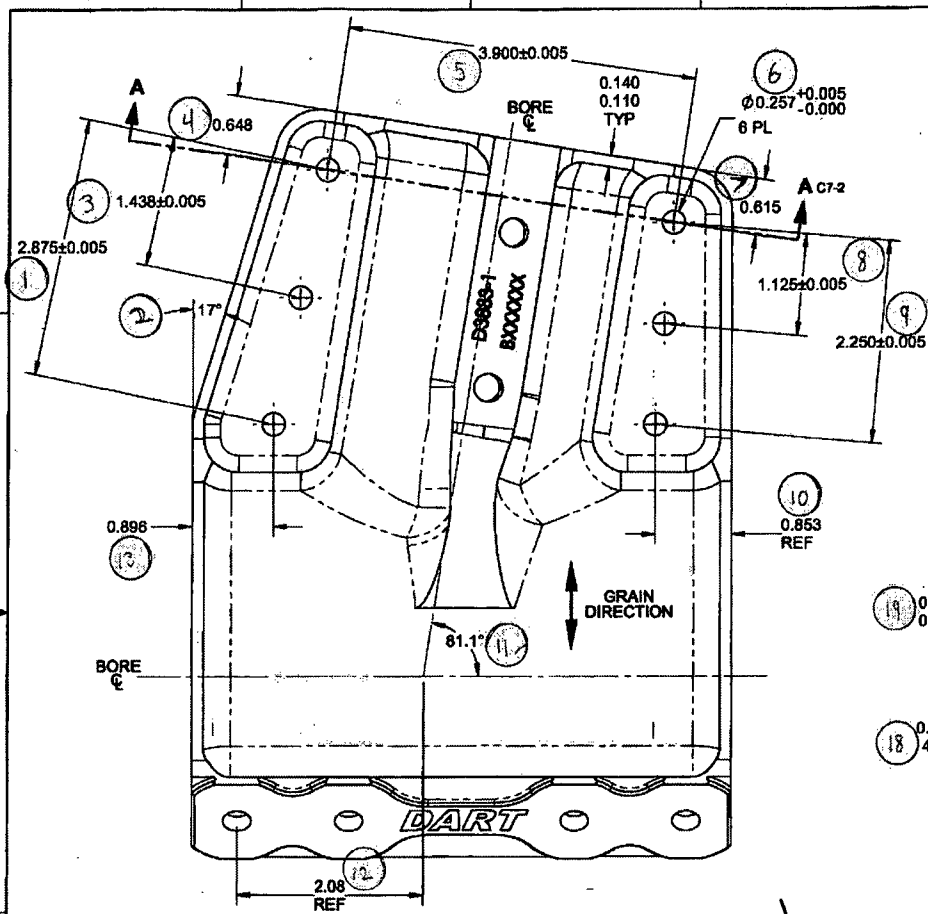
Inspect dimensions highlighted on inspection sheet drawing and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#9	#10	#11	#12	By	Date
A	2.870	2.880		2.875	2.875	2.875	2.875		
B	1.433	1.443		1.438	1.438	1.438	1.438		
C	0.638	0.658		0.647	0.647	0.647	0.647		
D	3.895	3.905		3.900	3.900	3.900	3.900		
E	0.257	0.262		0.258	0.258	0.258	0.258		
F	0.605	0.625		0.615	0.615	0.615	0.615		
G	1.120	1.130		1.125	1.125	1.125	1.125		
H	2.245	2.255		2.250	2.250	2.250	2.250		
I	2.000	2.020		2.000	2.000	2.000	2.000		
J	0.140	0.165		0.147	0.148	0.148	0.148		
K	0.240	0.260		0.248	0.248	0.248	0.248		
L	0.115	0.135		0.124	0.124	0.124	0.124		
M	0.140	0.165		0.147	0.147	0.147	0.147		
N	0.720	0.780		0.775	0.775	0.775	0.775		
O	0.240	0.260		0.257	0.257	0.257	0.257		
P	0.110	0.140		0.140	0.140	0.140	0.140		
Q	0.178	0.198		0.188	0.188	0.188	0.188		
R	2.825	2.885		2.855	2.855	2.855	2.855		
S	0.316	0.321		0.316	0.316	0.316	0.316		
T	0.990	1.010		1.000	1.000	1.000	1.000		
U	1.745	1.755		1.750	1.750	1.750	1.750		
V	5.990	6.010		6.000	6.000	6.000	6.000		
W	1.245	1.255		1.250	1.250	1.250	1.250		
X	0.490	0.510		0.501	0.501	0.501	0.501		
Y	1.220	1.280		1.245	1.245	1.245	1.245		
Z	2.495	2.505		2.500	2.500	2.500	2.500		
AA	0.313	0.318		0.314	0.314	0.314	0.314		
AB	0.020	0.040		0.030	0.030	0.030	0.030		
AC	0.760	0.765		0.760	0.760	0.760	0.760		
AD	0.215	0.220		0.218	0.218	0.218	0.218		
AE	1.265	1.285		1.265	1.265	1.265	1.265		
AF									
Accept/Reject									

Measured by: B. A.	DAS
Date: 16/07/31	08 9-89

Audited by: **	DAS
Date: 16-08-05	9-89

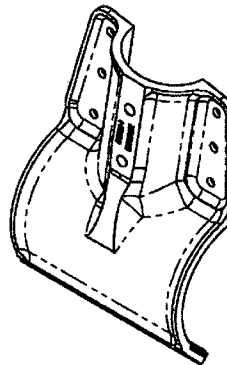
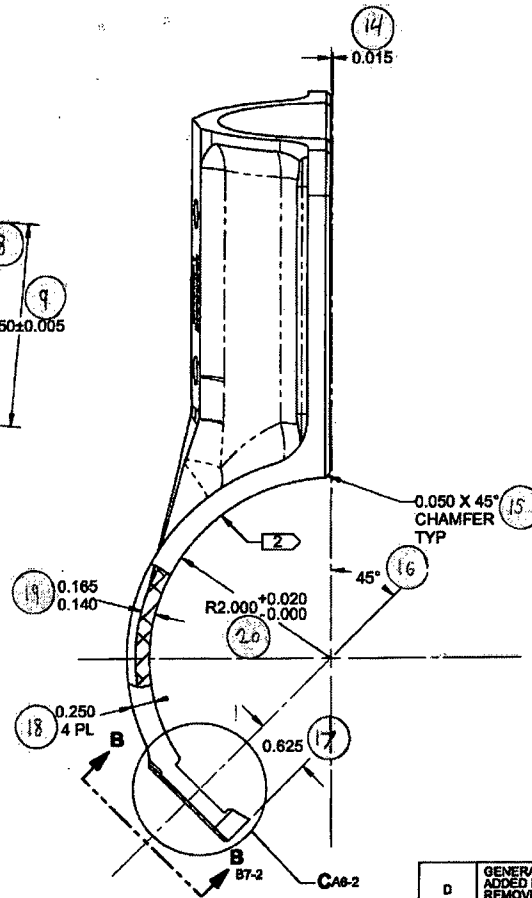
Rev	Date	Change	Revised by	Approved
A	09.10.22	New Issue	KJ	JLM
B	09.11.25	Dimension AE added	KJ	
C	15.06.22	Dwg Rev updated	KJ	



D3883-1 SADDLE, OUTBOARD LH

NOTES:

- 1) MATERIAL: 7075-T7361 ALUMINUM PER AMS-QQ-A-250/12, OR QQ-A-250/12 OR ASTM B209 (REF DART SPEC. D6101-015)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 MASK INSIDE SURFACES OF SADDLE PRIOR TO APPLICATION OF POWDER COAT POWDER COAT GLOSS WHITE (4.3.6.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX. DEPTH OF 0.010 WITH A MIN. TOOL RAD OF R0.010
- 7) WEIGHT: 1.03 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD R0.250
- 9) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D3883-1-REVD.SLDPRT"



RELEASED

2015 MAY 19
A.P. ECHIS-575

DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. D
MFG. APPR.	JLM	D3883	SHEET 1 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	D8	OUTBOARD SADDLE	NTS
DATE	15.02.11	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRELIMINARY AND IS SUBJECT TO THE SAME CONDITIONS THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

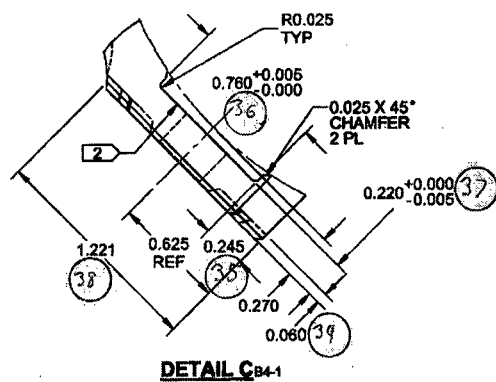
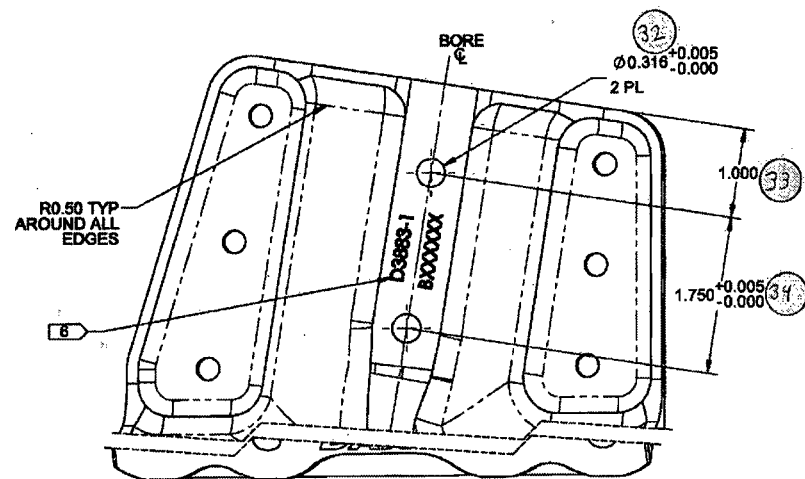
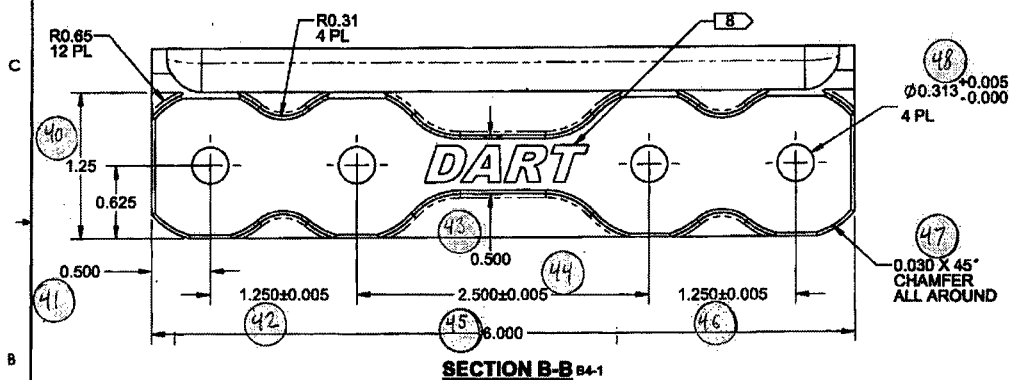
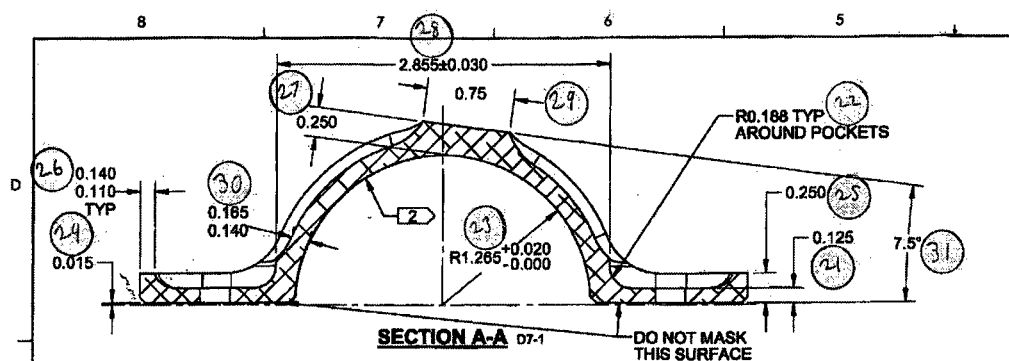
DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER :							
Misidentified ☐	Past Due ☐								



RELEASED

P.R. 2015 MAY 19

APPROVED	DESIGN	AP	DART AEROSPACE USA, INC.	
	DRAWN	AP	KENT, WA	
	CHECKED	AJS	DRAWING NO. D3883	REV. D
	MFG. APPR.	JLM	SHEET 2 OF 4	
	APPROVED	HS	TITLE OUTBOARD SADDLE	SCALE
	DE APPR.	DS	NTS	
	DATE	15.02.11	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION FROM DART AEROSPACE USA, INC.	

DQA: _____ Date: _____

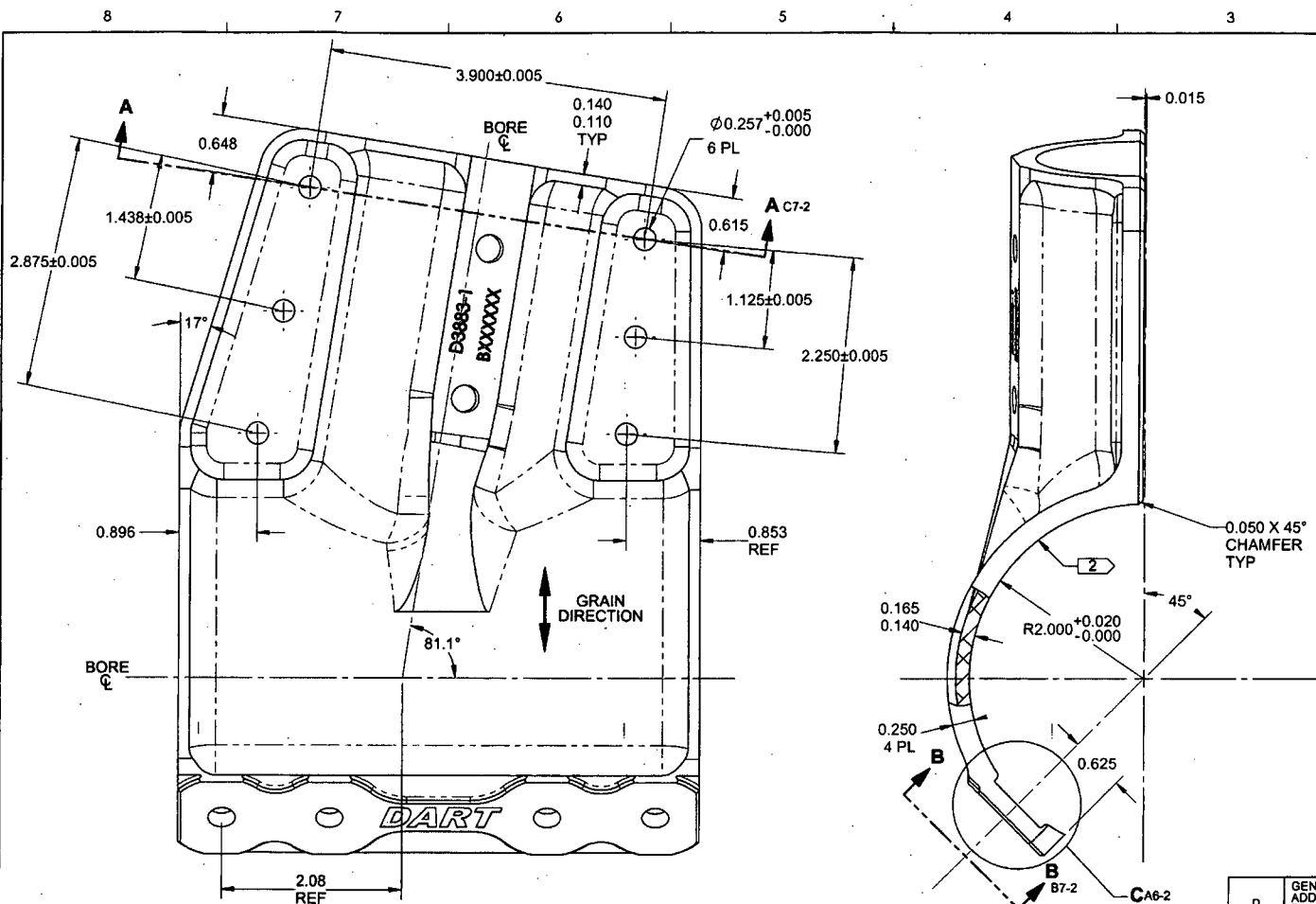


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																															
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Root Cause <table style="width: 100%; border: none;"> <tr><td style="border: none;">Environment ☐</td><td style="border: none;">No Re-verification ☐</td></tr> <tr><td style="border: none;">Design ☐</td><td style="border: none;">Operator ☐</td></tr> <tr><td style="border: none;">Doc/Data ☐</td><td style="border: none;">Offset/Setup ☐</td></tr> <tr><td style="border: none;">Equip/Tooling ☐</td><td style="border: none;">Supplier ☐</td></tr> <tr><td style="border: none;">Handling/Pre ☐</td><td style="border: none;">Training ☐</td></tr> <tr><td style="border: none;">Material ☐</td><td style="border: none;">Use for Testing ☐</td></tr> <tr><td style="border: none;">Internal Transport ☐</td><td style="border: none;">Poor Information ☐</td></tr> <tr><td style="border: none;">Tribal Knowledge ☐</td><td style="border: none;">Rushing ☐</td></tr> <tr><td style="border: none;">LOA ☐</td><td style="border: none;">Product Improvement ☐</td></tr> <tr><td style="border: none;">Substation ☐</td><td style="border: none;">Process Improvement ☐</td></tr> <tr><td style="border: none;">Past Expiry Date ☐</td><td style="border: none;">Manufacturing Process ☐</td></tr> <tr><td style="border: none;">Misidentified ☐</td><td style="border: none;">Past Due ☐</td></tr> </table>		Environment ☐	No Re-verification ☐	Design ☐	Operator ☐	Doc/Data ☐	Offset/Setup ☐	Equip/Tooling ☐	Supplier ☐	Handling/Pre ☐	Training ☐	Material ☐	Use for Testing ☐	Internal Transport ☐	Poor Information ☐	Tribal Knowledge ☐	Rushing ☐	LOA ☐	Product Improvement ☐	Substation ☐	Process Improvement ☐	Past Expiry Date ☐	Manufacturing Process ☐	Misidentified ☐	Past Due ☐	FAULT CATEGORY <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Pressure/Forced ☐</td> <td style="border: none;">Temperature/Cure ☐</td> <td style="border: none;">Power Loss/Surge ☐</td> <td style="border: none;">Positioned Wrong ☐</td> </tr> <tr> <td style="border: none;">Bending ☐</td> <td style="border: none;">Set-up ☐</td> <td style="border: none;">Folio/Program ☐</td> <td style="border: none;">Outside Dimensions ☐</td> </tr> <tr> <td style="border: none;">Centre Not Concentric ☐</td> <td style="border: none;">BOM/Route ☐</td> <td style="border: none;">Grain ☐</td> <td style="border: none;">Over/Under tolerance ☐</td> </tr> <tr> <td style="border: none;">Cracks ☐</td> <td style="border: none;">Broken/Damage/Defect ☐</td> <td style="border: none;">Weld ☐</td> <td style="border: none;">Part Incorrect ☐</td> </tr> <tr> <td style="border: none;">Crimp/Kink/Ripple/Wave ☐</td> <td style="border: none;">Inspection Incomplete/Unqualified ☐</td> <td style="border: none;">Wrong Stock Pulled ☐</td> <td style="border: none;">Part Lost/Missing ☐</td> </tr> <tr> <td style="border: none;">Cuffs ☐</td> <td style="border: none;">Contamination ☐</td> <td style="border: none;">Out of Sequence ☐</td> <td style="border: none;">Part Moved ☐</td> </tr> <tr> <td style="border: none;">Crushing ☐</td> <td style="border: none;">Countersink ☐</td> <td style="border: none;">Off-set ☐</td> <td style="border: none;">Drawing ☐</td> </tr> <tr> <td style="border: none;">Heat Treat ☐</td> <td style="border: none;">Cut Too Short ☐</td> <td style="border: none;">Mislabeled ☐</td> <td style="border: none;">Finish ☐</td> </tr> <tr> <td style="border: none;">Wave/Twist in Tube ☐</td> <td style="border: none;">Instructions Incomplete/Unclear ☐</td> <td style="border: none;">Fit/Function ☐</td> <td style="border: none;">Misread ☐</td> </tr> <tr> <td style="border: none;">Marks/Chatter ☐</td> <td style="border: none;">Drill Holes ☐</td> <td style="border: none;">Misaligned/off center ☐</td> <td style="border: none;">Turning Sequence ☐</td> </tr> </table>						Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
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OTHER :																																																																							



D3883-1 SADDLE, OUTBOARD LH

NOTES:

- 1) MATERIAL: 7075-T7351 ALUMINUM PER AMS-QQ-A-250/12, OR QQ-A-250/12 OR ASTM B209 (REF DART SPEC. D6101-015)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 MASK INSIDE SURFACES OF SADDLE PRIOR TO APPLICATION OF POWDER COAT. POWDER COAT GLOSS WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX. DEPTH OF 0.010 WITH A MIN. TOOL RAD OF R0.010
- 7) WEIGHT: 1.03 lbs
- 8) ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD R0.250
- 9) ALL NON-DIMENSIONED FEATURES DEFINED PER DRAWING FILE "D3883-1-REVD.SLDPRT"

W/O 147687

RELEASED

2015 MAY 19
A.P. ECNIS-575

D	GENERAL REDRAW, ADDED D3883-2 ON SHEETS 3 & 4, ADDED NOTE 9 & REMOVED UNNECESSARY DIMS. REMOVED POWDER COAT ON INSIDE SURFACE OF D3883-1/2	AP	15.02.11
C	ADD R1.265 (ZN D8-2)	RF	09.11.09
B	D6101-015, ZN A7-1; ADD 0.648, ZN D7-1; ADD 0.615, ZN D6-1; ADD 0.125, ZN D7-2; ADD 0.060 & R0.031, ZN B5-2; 0.75 WAS 0.728, ZN C7-2	RF	09.06.30
A	NEW ISSUE	RF	09.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	AP	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	AP		
CHECKED	AJS	DRAWING NO.	REV. D
MFG. APPR.	JLM	D3883	SHEET 1 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	OUTBOARD SADDLE	NTS
DATE	15.02.11	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED

DQA: _____ Date: _____

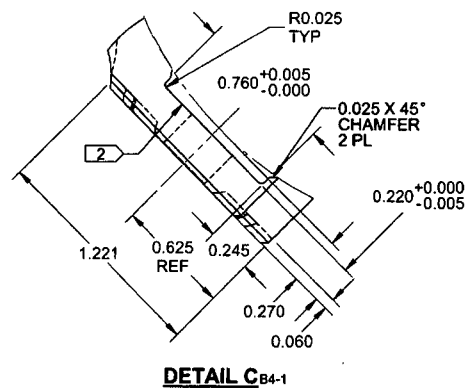
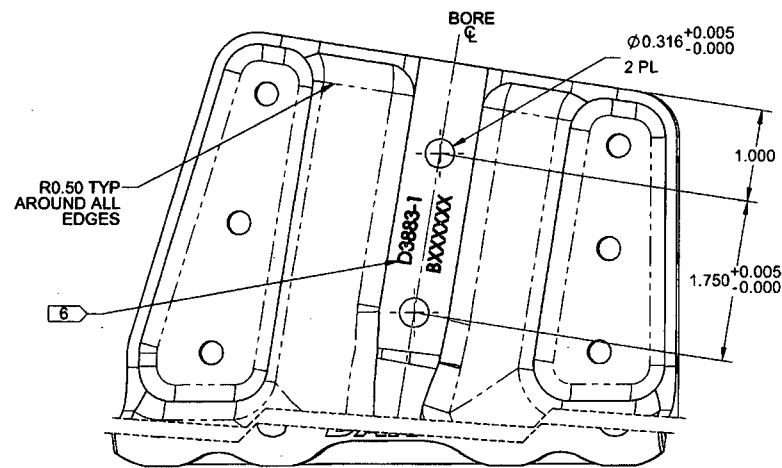
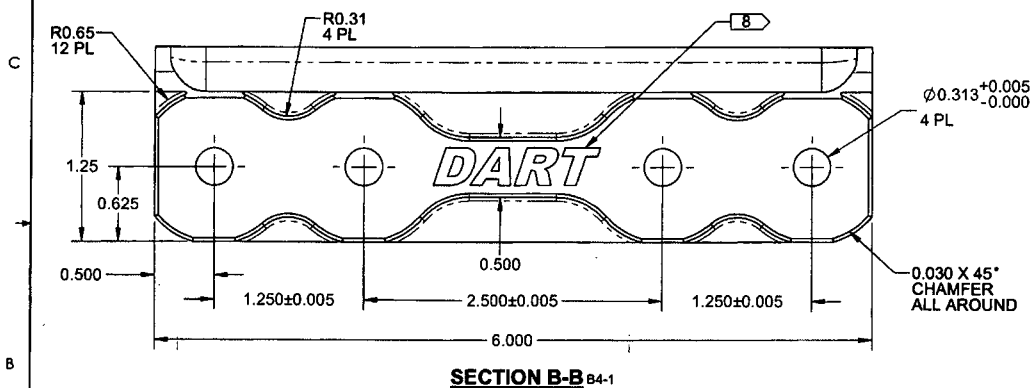
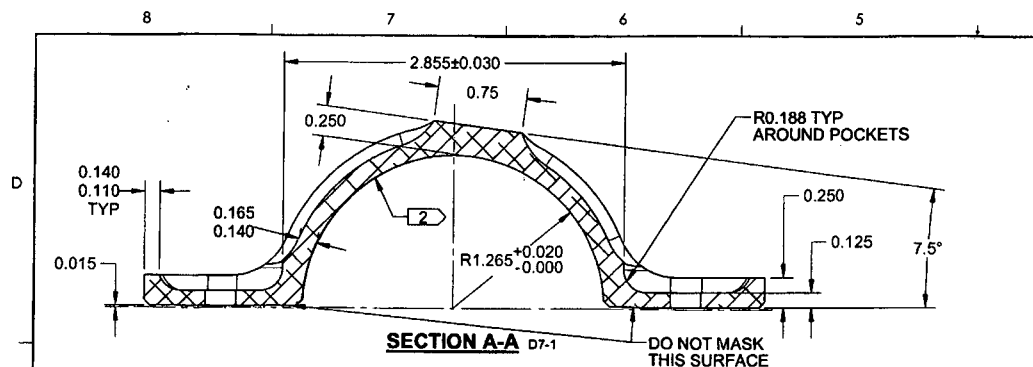


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					



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**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
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Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					